

METHOD AND SYSTEM FOR PROCESSING UPSTREAM PACKETS OF AN
OPTICAL NETWORK

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ABSTRACT OF THE DISCLOSURE

A protocol for an optical network can control the time at which subscriber optical interfaces of an optical network are permitted to transmit data to a transceiver node. The protocol can prevent collisions of upstream transmissions between the subscriber optical interfaces of a particular subscriber group. With the protocol, a transceiver node close to the subscriber can allocate additional or reduced upstream bandwidth based upon the demand of one or more subscribers. That is, a transceiver node close to a subscriber can monitor (or police) and adjust a subscriber's upstream bandwidth on a subscription basis or on an as-needed basis. The protocol can account for aggregates of packets rather than individual packets. By performing calculation on aggregates of packets, the algorithm can execute less frequently which, in turn, permits its implementation in lower performance and lower cost devices, such as software executing in a general purpose microprocessor.

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